Remarks

The Examiner objected to claim 37 in view of a typographical error. In response, the applicant has corrected the error.

The Examiner rejected claim 46 under 35 U.S.C. §112, second paragraph, as being indefinite because the phrase "said step of **providing two** or more biological targets" lacks antecedent basis." In response, the Applicant has amended claim 46 to correct the error.

The Examiner has rejected claims 37-39, 43-45, and 47-48 under 35 U.S.C. §102(b) as anticipated by Shalon et al. (WO 95/35505). Specifically, the Examiner states that Shalon teaches both a method and apparatus for making micro arrays comprising "'two or more reagents' (e.g. 2 or more polynucleotides or polypeptides) and 'one or more barriers...wherein each portion is maintained at predefined positions...portions is adapted to be brought into contact with one or more predefined biological targets' in which the 'barrier' comprises a 'solid support' (e.g. uncoated or glass coated with a polymer i.e. polylysine and grids e.g. addresses)." The Examiner further states that Shalon's "polymer arrays are then subjected to assay which comprises the corresponded to and contacting of 'biological target(s)' (e.g. polynucleotides/polypeptides) to the predefined reagent portions...[i]t is noted that the reference teaches 'seeding and adhering biological targets' of claim 47 where the targets are non-celular (e.g. DNA/protein) since contacting of the reference reagent to its target effectuate 'seeding and adhering' within the scope of the presently claimed invention...[s]imilarly, the reference teaching of applying (in any manner) the reagent to its target meets 'the step of applying one or more conditions' (where conditions are open-ended: e.g. include physical/chemical/mechanical and other parameters) since such conditions would include not only the application but the

temperature and/or physical parameters exercised by the reference procedure."

In response, the Applicant respectfully traverses the Examiner's conclusions and offers the following remarks. Although the Applicant acknowledges that Shalon discloses a method and apparatus for making microarrays, Shalon does not disclose the method of claim 37, namely, a method for bringing two or more reagents in contact with one or more biological targets in which the method utilizes an array that is distinguished from Shalon's array and is used for a different purpose. Shalon et al.'s immobilized reagents remain on the array at all times throughout the assay in contrast to the subject invention in which at least a portion of the reagents dissociate from the array to the target. In addition, Shalon et al. do not teach the steps of designating an address to each of the biological targets.

The Examiner has rejected claims 37-39, 43-45, and 47-48 under 35 U.S.C. §102(e) as anticipated by Chin et al. (U.S. Patent No. 6,197,599, issued 3/01, filed 7/98). Specifically, the Examiner states that Chin et al. teach both a method and apparatus for making micro arrays comprising "'two or more reagents' (e.g. 2 or more polynucleotides or polypeptides) and 'one or more barriers...wherein each portion is maintained at predefined positions...portions is adapted to be brought into contact with one or more predefined biological targets' in which the 'barrier' comprises a 'solid support' (e.g. uncoated or glass coated with a polymer i.e. polylysine and grids e.g. addresses)." The Examiner further states that Chin et al.'s "polymer arrays are then subjected to assay...which comprises the correspondece to and contacting of 'biological target(s)' (e.g. polypeptides) to the predefined reagent portions...[i]t is noted that the reference teaches 'seeding and adhering biological targets' of claim 47 where the targets are non-cellular (e.g. protein) since contacting of the reference reagent to its target effectuate 'seeding and

adhering' within the scope of the presently claimed invention...[s]imilarly, the reference teaching of applying (in any manner) the reagent to its target meets 'the step of applying one or more conditions' (where conditions are open-ended: e.g. include physical/chemical/mechanical and other parameters) since such conditions would include not only the application but the temperature and/or physical parameters exercised by the reference procedure."

In response, the Applicant respectfully traverses the Examiner's conclusions and offers the following remarks. The Applicant reserves the right to swear behind the Chin reference. Although the Applicant acknowledges that Chin et al. disclose a method for making arrays comprising two or more reagents, similar to Shalon et al.'s arrays, the targets adhere to the array in contrast to the subject invention in which at least a portion of the reagent dissociate from the array to the target. For example, Chin et al. disclose that a target protein is captured by its antibody immobilized on the array during the incubation process. (col. 5, lines 40-44) "After incubation of the protein mixture with the array, the protein of interest will be captured to the position where its interacting protein(s) is captured." (col. 5, lines 45-50) Similarly, in Chin et al.'s third example, "the antibodies...and some other cellular proteins were immobilized on PVDF membranes...{c]ell lysates prepared from HeLa cells...were incubated with two identical antibody arrays...[a]fter 2 hours of incubation, unbound proteins were removed by three washes...[t]he membrane was then examined with a laser scanner." (col. 6, lines 53-60) Chin et al.'s method is similarly recited in their claims which require that the target proteins bind to the array of antibodies. (e.g. col. 8, lines 12-20)

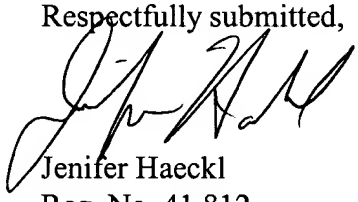
The Examiner has rejected claims 37-39 and 43-49 under 35 U.S.C. §102(e) as anticipated by Sabatini (U.S. Patent No. 6,544,790, issued 4/03, filed 9/99). Specifically, the

Examiner states that Sabatini teaches both a method and apparatus for making micro arrays comprising "'two or more reagents' (e.g. DNA/RNA: bottom of col. To top of col. 2) and 'one or more barriers...wherein each portion is maintained at predefined positions...portions is adapted to be brought into contact with one or more predefined biological targets' in which the 'barrier' comprises a 'solid support' (e.g. any 'flat surface' including slides made of glass which can be polymer coated e.g. with polylysine; or bottom of wells in multi0-welled plates: see col. 2)." The Examiner further states that Sabatini discloses "'providing one or more biological targets' which include cells grown on 'growth supports' and/or applied (seeded/adhered) to the DNA/RNA reagent while employing growth medium (DMEM)(e.g. see col. 4)." The Examiner further states that Sabatini discloses "the use of any transfection technique (e.g. see col. 1, especially lines 30-40) including elctroporation (e.g. electric pulse) as a condition to facilitate transfer (e.g. transfection) of the DNA/RNA into the target cell(s)."

In response, the Applicant respectfully traverses the Examiner's conclusions and offers the following remarks. Applicant reserves the right to swear behind Sabatini. Although the Applicant acknowledges that Sabatini discloses a method and apparatus for making arrays, Sabatini does not disclose providing one or more biological targets on a target support. Similar to Shalon et al. and Chin et al., Sabatini discloses a method for making an array on which spots of a "DNA of interest" are deposited onto a surface to form an array of defined discrete locations. Once the spots of DNA are dried into place, various eukaryotic cells are then plated onto the array of DNA spots. Sabatini's eukaryotic cells adhere to the array in contrast to the subject invention in which at least a portion of the reagent dissociate from the array to the target. (e.g. Sabatini at col. 2, lines 1-28; col. 3, lines 66-67 to col. 4, lines 1-6).

Each of the Examiner's objections and rejections has been addressed. If for any reason this Response is found to be incomplete, or if at any time it appears that a telephone conference with counsel would help advance prosecution, please telephone the undersigned in Westborough, Massachusetts at (508) 898-1501.

Respectfully submitted,



Jenifer Haeckl
Reg. No. 41,812